FIX Software Testing Automator

Introduction

STAFF is Software Testing Automation Framework for FIX. It is a set of assumptions, concepts, and practices providing support for automated testing of FIX applications.

STAFF comes complete with a library of hundreds of Actions, as Ant-based tool. Each Action is designed to perform a single task, such as running a program or a service, renaming a group of files, creating a FIX connection, sending and receiving FIX messages, verification of received messages and much more. STAFF actions from the library are added in sequence to a project file, that is, an xml document. Each Action in the project corresponds to an individual step that you would normally do to accomplish your task.

It is easy to create and manage test cases and environments. Save and reuse STAFF projects using the same items as the last time it was run, with new items you select or with the built-in or third party items found on the web. You can even run STAFF in distributed environment using remote actions.

With STAFF, you'll never find yourself at a loss for Actions. Developers are extending the reach of STAFF by creating more and more Actions. Expand your library by downloading new Actions from third-party developers or create your own using Java.

STAFF is based on Apache cross-platform Java-based build tool called Ant. In theory, Ant is kind of like make, without make's wrinkles. With STAFF you can easily integrate your tests into build process.

Installation

Installing Ant

First of all, you have to install Apache Ant. Please refer to Ant documentation for installation instructions.

Installing third-party Ant tasks

In general, pure Ant distribution is enough for the build process. However, you may be interested having more advanced things, like ability to start server process in background, process expected failures with try-catch blocks, perform HTTP requests or other. In this case you have to install third-party Ant tasks.

It is recommended to install tasks from the Open Source Ant Contributions project.

Installing STAFF

To install STAFF, just unpack your distribution and put all JAR files into the Ant library folder. You cannot install STAFF tasks using Ant's "classpath" setting since STAFF uses built-in Java FIX Engine due to common class loader delegation problem.

Using STAFF

You should be familiar with Ant to use STAFF. If not, please read Ant documentation first. See also Ant Frequently Asked Questions.

STAFF Data types and Tasks

STAFF provides you with the following data types:

1) fixMessage – represents a FIX message object.
2) fixInitiator – represents a FIX initiator.
3) fixAcceptor – represents a FIX acceptor.
4) fixExecutor – represents a simple FIX executor.
5) smtpAcceptor – represents simple SMTP server. The tag has "*configurationDirectory*" parameter, that should contain path, absolute or relative, to the directory containing *mail.conf, user.conf* files. User.conf shouldn't be changed, mail.conf can be changed if necessary.
6) smtpMessage - represents a SMTP message object.

The data types, described above, should be processed with the following tasks:

1) fixStart – starts FIX initiator, acceptor or executor.
2) fixStop – stops FIX initiator, acceptor or executor.
3) fixWaitForLogin – waits for FIX session establishment.
4) fixDisconnectExpect – starts listen disconnect event. This task using together with the fixDisconnectValidate task
5) fixDisconnectValidate – checks disconnect signal (if arrived) or wait time left from timeout
6) fixField – accesses FIX message field. FIX groups are also supported.
7) fixSend – sends FIX message to the session.
8) fixReceive – receives FIX message from the session. Message verification including FIX fields and groups are supported.
9) setControlLevel – switch receive level messages(Application/Session)
10) fixSequenceReset – sends Sequence Reset message in reset mode to the FIX Peer
11) fixLimit – used to make sure that FIX message not appears during specified period of time.
12) fixFilterFixIn – intercept incoming messages.
13) fixFilterFixOut – intercept outgoing messages.
14) fixFilterRule – rule of filter.
15) smtpStart – start SMTP acceptor.
16) smtpStop – stop SMTP acceptor.
17) smtpReceive - receives SMTP message. Message verification supported.
18) sqlExt – represent connection to DB.
19) verifyCell – verify DB field value.
20) Block – used to represent common FIX message fields.
21) tcpSimpleClient(deprecated), tcpSimpleServer(deprecated) – represents, simple TCP client and server.
22) tcpSimpleSend(deprecated), tcpSimpleReceive(deprecated) – send, receive simple message on TCP protocol.

For more details please see examples included into your distribution of STAFF.